

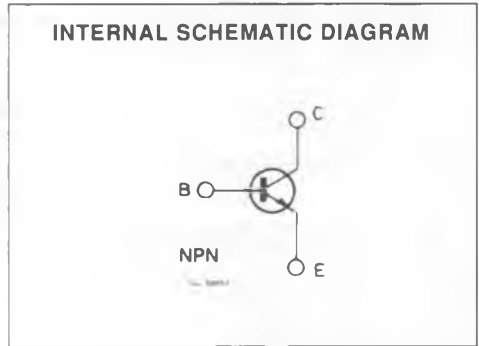
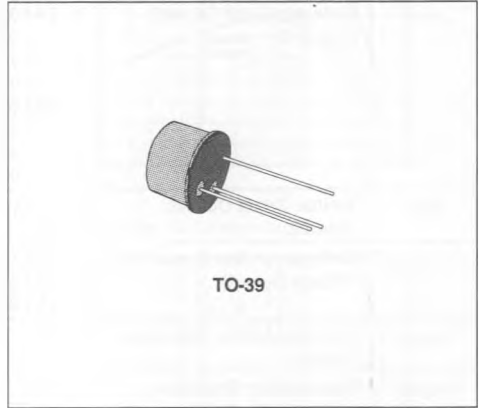


**HIGH CURRENT, FAST SWITCHING APPLICATIONS**

**DESCRIPTION**

The 2N4895, 2N4896 and 2N4897 are silicon epitaxial planar NPN transistors in Jedec TO-3 metal case.

They are intended for high current, fast switching applications and for power amplifiers.



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	2N4895	2N4896	2N4897	Unit
$V_{CBO}$	Collector-base Voltage ( $I_E = 0$ )	120	120	150	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	60	60	80	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	6			V
$I_C$	Collector Current	5			A
$P_{Tot}$	Total Power Dissipation at $T_{amb} \leq 25^\circ C$ $T_{case} \leq 25^\circ C$ $T_{case} \leq 100^\circ C$	1			W
		7			W
		4			W
$T_{stg}$	Storage Temperature	- 65 to 200			$^\circ C$
$T_j$	Junction Temperature	200			$^\circ C$

**THERMAL DATA**

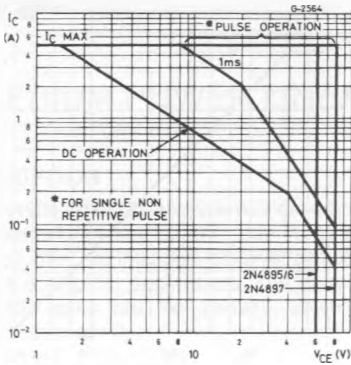
$R_{th(j-case)}$	Thermal Resistance Junction-case	Max	25	°C/W
$R_{th(j-amb)}$	Thermal Resistance Junction-ambient	Max	175	°C/W

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise specified)

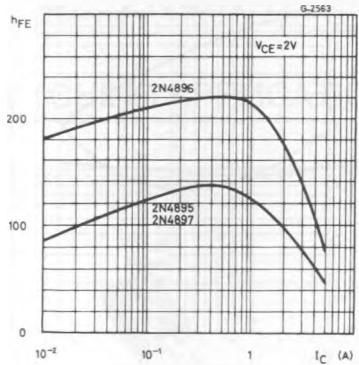
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CES}$	Collector Cutoff Current ( $V_{BE} = 0$ )	for <b>2N4895</b> and <b>2N4896</b> $V_{CE} = 120V$ $V_{CE} = 60V$ $V_{CE} = 60V$ $T_{case} = 150^{\circ}C$ for <b>2N4897</b> $V_{CE} = 150V$ $V_{CE} = 100V$ $V_{CE} = 100V$ $T_{case} = 150^{\circ}C$			1 1 100 1 1 100	mA $\mu A$ $\mu A$ mA $\mu A$ $\mu A$
$I_{EBO}$	Emitter Cutoff Current ( $I_C = 0$ )	$V_{EB} = 6V$			1	mA
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage ( $I_B = 0$ )	$I_C = 50mA$ for <b>2N4895</b> and <b>2N4896</b> for <b>2N4897</b>	60 80			V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 5A$ $I_B = 0.5A$			1	V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 5A$ $I_B = 0.5A$			1.6	V
$h_{FE}^*$	DC Current Gain	$I_C = 2A$ $V_{CE} = 2V$ for <b>2N4895</b> and <b>2N4897</b> for <b>2N4896</b> $I_C = 2A$ $V_{CE} = 2V$ $T_{case} = -55^{\circ}C$ for <b>2N4895</b> and <b>2N4897</b> for <b>2N4896</b>	40 100 15 35		120 300	
$f_T$	Transistion Frequency	$I_C = 0.5A$ $V_{CE} = 5V$ for <b>2N4895</b> and <b>2N4897</b> for <b>2N4896</b>	50 80			MHz MHz
$C_{CBO}$	Collector-base Capacitance	$I_E = 0$ $V_{CB} = 10V$ $f = 1 MHz$			80	pF
$t_{on}$	Turn-on Time	$I_C = 5A$ $V_{CC} = 20V$ $I_{B1} = 0.5A$			0.35	$\mu s$
$t_s$	Storage Time	$I_C = 5A$ $V_{CC} = 20V$			0.35	$\mu s$
$t_f$	Fall Time	$I_{B1} = -I_{B2} = 0.5A$			0.3	$\mu s$

\* Pulsed : pulse duration = 300 $\mu s$ , duty cycle = 1.5%.

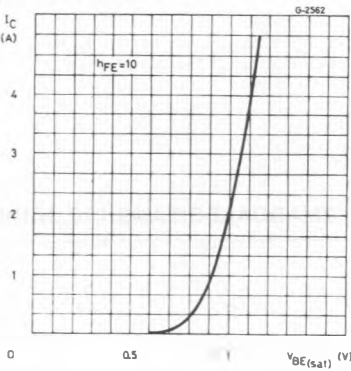
Safe Operating Areas



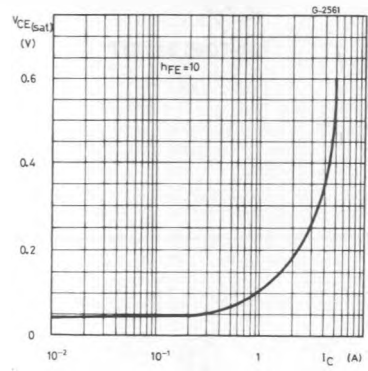
DC Current Gain



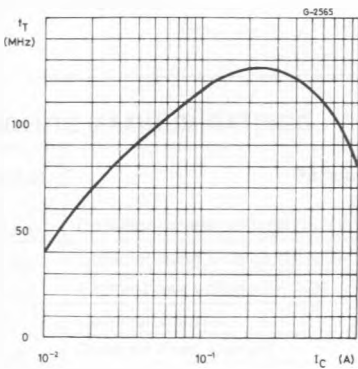
DC Transconductance



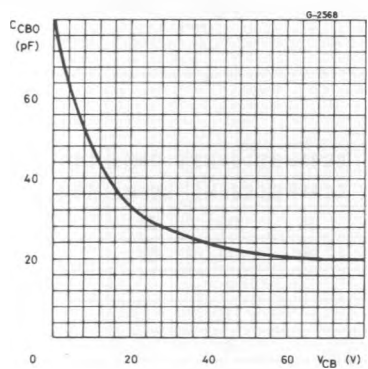
Collector-emitter Saturation Voltage



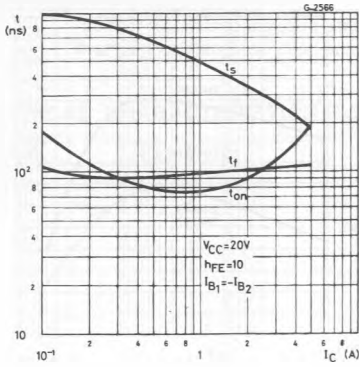
Transition Frequency



Collector-base Capacitance



Saturated Switching Characteristics.



Power Rating Chart.

